BRUHAT BANGALORE MAHANAGARA PALIKE
RAJARAJESHWARINAGAR ZONE
ELECTRICAL DIVISION
DETAILED ESTIMATE FOR PUBLIC WORKS

Name of the Work: Providing LED Street lights in HMT Layout, Brundavan Nagar,SBM Colony and other places of ward no-17,JP park.

		Est. No.AEE/ELE/RRNZ/ EST/ / 17-18				**Est Cost:-**	200.00 Lakhs
Sl No	**SR ref page**	**sl no**	**Description of Work**	**unit**	**Qty**	**Rate**	**Amount**
1	27	4.36	LED Street light. Supply of LED Streetlight with pressure die cast aluminum housing body with optimal heat sink for better thermal dissipation. Diffuser with Injection moulded & is made of polycarbonate material with high transmission index, delivering superior light output. Rated life Burning Hrs. 50000 hr. @ Lumen Maintenance of 70%. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains Current should not be greater than 0.1A to 0.7A & Surge Protection- Min 4 KV along with Over voltage/Overload, short circuit/ miswiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Over load & Short circuit protection ensures reliable operation in spite of problem in output side. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with .....W System Power consumption. LED Efficiency>130lm/w at 1W & Fixture Efficiency >80lm/w with nominal CRI 75+. housing with supplier word mark / name shall be engraved / Embossing on the die cast housing / body part. . Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Warranty of 5 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED source manufacturer. Suitable for A1/A2 Roads as per IS 1944 Part I & Part II.				
	27	4.36.1	90 Watts	Each	106	31250.00	3312500.00
	27	4.36.2	110 Watts				
			JP PARK Main Gate Opp Road street lights	**Each**	**60**	**34240.00**	**2054400.00**
2	108	17.2.2	Supplying and Fixing.....mm dia class A GI pipe bracket up to 2.7 meters long terminated with a reducing collar of 40x25mm to which extra pipe of 175mm length is fixed for fixing MV/SV/MH/FTL street light fitting of all capacities on rail/RCC/wall/tubular pole, using suitable clamps, bolts ,nuts and wiring using suitable capacity wires. Using 32mm dia G.I.pipe	**Each**	**106**	**1140.00**	**120840.00**
3			Fabricating, supplying and erecting swaged tubular pole of height ...Mtr having three sections, and providing two coats of red oxide paint and finished with two coats of enameled paint of approved quality and colour and M.S. base plate of suitable size welded at the bottom of the pole(as per IS) and 40mm dia GI / flexible PVC pipe of 1 mtr length fitted to the heavy gauge polycarbonate control box including 5way connector of size 167x125x82mm for 7.5M pole/200x160x98mm for remaining length of pole with front opening cover, with locking arrangements and suitable capacity MCB / DP switch, The pole shall be erected in cement concrete work (1:2:4) including excavation and refilling of planting depth of the pole to the ground level and the coping CC shall be up to 0.6M above ground level as per IS 2713 - 7. Erection of heavy duty pole on Footpath / median				
	34	5.13.1.1	9Mt (5Mt Hb,165.1mm dia 4.85mm thick x2M Hm, 139.7mm dia 4.50mm thick x 2M Ht,114.3mm dia 3.65mm thick) as per IS 410 SP 32				
			JP PARK Main Gate Opp Road street lights	**Each**	**60**	**15000.00**	**900000.00**
4	55	7.4.4	Supplying of 1.1 KV LT UG cable having aluminum conductor PVC insulated, extruded inner sheathed, galvanized, steel strip (except 2CX10Sq.mm wire armoured) confirming to IS-3975:1990 (No. of Strip indicated in GTP) & extruded PVC outer sheathed armoured cable with specified IS-1554 Part-1:1988 & confirming to GTP of GROUP-A. 4 core 16 sqmm				

Sl No	SR ref page		Description of Work	unit	Qty	Rate	Amount
		sl no					
			JP PARK Main Gate Opp Road street lights	Mtr	1400		
			J P Park Sand pathway Lighting	Mtr	4400		
			Total qty	**Mtr**	**5800**	**140.40**	**814320.00**
	56	7.45	3.5 core 25 sqmm				
			JP PARK Main Gate Opp Road street lights	Mtr	200		
			J P Park Sand pathway Lighting	Mtr	300		
			J.P Park Play ground Street Lights	Mtr	1000		
			Total qty	**Mtr**	**1500**	**165.600**	**248400.00**
	56	7.4.7	3.5 core 50 sqmm				
			J.P Park Play ground Street Lights	**Mtr**	**400**	**265.000**	**106000.00**
5	61	7.8.A.1	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required.In existing trench/duct. 6 sqmm to 16 sqmm	Mtr			
			JP PARK Main Gate Opp Road street lights	Mtr	1400		
			J P Park Sand pathway Lighting	Mtr	4400		
			Total qty	**Mtr**	**5800**	**10.80**	**62640.00**
	61	7.8.A.2	25 sqmm to 75 sqmm				
			JP PARK Main Gate Opp Road street lights	Mtr	200		
			J P Park Sand pathway Lighting	Mtr	300		
			J.P Park Play ground Street Lights	Mtr	1400		
			Total qty	**Mtr**	**1900**	**16.20**	**30780.00**
6	62	7.9.2	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7) In soil (ORDINARY)				
			JP PARK Main Gate Opp Road street lights	Mtr	50		
			J P Park Sand pathway Lighting	Mtr	4200		
			Total qty	**Mtr**	**4250**	**78.00**	**331500.00**
	62	7.9.4	Asphalt cutting				
			JP PARK Main Gate Opp Road street lights	**Mtr**	**1300**	**117.00**	**152100.00**
	62	7.9.2	Soil Hard				
			J.P Park Play ground Street Lights	**Mtr**	**1050**	**106.00**	**111300.00**
7	63	7.20.2	Supply and laying double walled corrugated (DWC) HDPE Pipe including all necessary connecting Sockets/Couplings/Tees/Bends/End-caps of same materials in existing trench as per IS 14930 part -II suitable for drawing underground cables. 50mm OD / 38mm ID				
			JP PARK Main Gate Opp Road street lights	Mtr	1300		
			J P Park Sand pathway Lighting	Mtr	4200		
			J.P Park Play ground Street Lights	Mtr	900		
			Total qty	**Mtr**	**6400**	**151.00**	**966400.00**
8	41	38	Supply and installaion / Fixing / Provision for mounting of HRC Fuse/ MCB with suitable connector/ terminal for 3 Ph / 1 Ph connections with Loop-In & Loop-Out terminals for 10 SQmm/25 Sqmm 3.5 C Al/ Ar Cable and branch out 2.5 Sqmm 2 core Al/Cu PVC insulated cable, enclosed in a Thermoplastic, Polystyrene enclosure, which should be shock proof having internally Embedded Gasket with provision for cable entry through IP65 Thermoplastic, polyamide glands and / or grommets. 200x200x98mm (PWD Electrical SR 2010-11)				
			JP PARK Main Gate Opp Road street lights	Each	60		
			J.P Park Play ground Street Lights	Each	52		
			Total qty	**Each**	**112**	**925.00**	**103600.00**
9	17	3.1	Supplying and fixing hylum plastic sheet 3mm thick with necessary nitches for fixing switches, regulators etc., and fixing on existing wood or metal box using N.F. screws.				
			JP PARK Main Gate Opp Road street lights	Sq CM	7200		
			J P Park Sand pathway Lighting	Sq CM	7200		
			Total qty	**Sq CM**	**14400**	**0.22**	**3168.00**
10	6	2.5.3	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100v grade, multistrand copper with low conductor resistence single core wire in open or consealed system of wiring wit specified IS-694:1990 & confirming to GTP of group A. 2.5 SQMM				
			JP PARK Main Gate Opp Road street lights	Mtr	1560		
			J P Park Sand pathway Lighting	Mtr	2500		
			Total qty	**Mtr**	**4060**	**29.20**	**118552.00**
	6	2.6.4	4 sqmm (Group B)				
			J.P Park Play ground Street Lights	**Mtr**	**1040**	**36.30**	**37752.00**
	6	2.5.5	6sqmm (Group B)				

Sl No	SR ref page	sl no	Description of Work	unit	Qty	Rate	Amount
			J P Park Sand pathway Lighting	Mtr	100		
			J.P Park Play ground Street Lights	Mtr	20		
			Total qty	**Mtr**	**140**	**63.80**	**8932.00**
11	51	6.46	Supplying and fixing Microprocessor Based Astronomical timer Switch with using necessary bolts, nuts and washers.				
			JP PARK Main Gate Opp Road street lights	Each	2		
			J P Park Sand pathway Lighting	Each	4		
			J.P Park Play ground Street Lights	Each	2		
			Total qty	**Each**	**8**	**4586.00**	**36688.00**
12	45	6.7.3	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers. (Item No. - 6.7)-63Amps (Item No. - 6.7.3)				
			JP PARK Main Gate Opp Road street lights	Each	6		
			J P Park Sand pathway Lighting	Each	6		
			J.P Park Play ground Street Lights	Each	6		
			Total qty	**Each**	**18**	**234.00**	**4212.00**
13	46	6.12.3	Supply and fixing of 4pole power contactor with NO/NC contacts on existing wood/panel board using necessary bolts, nuts, washers and wiring etc., complete with AC-3 Rating and as per IS-13947. (Item No. - 6.12)--60-70Amps (Item No. - 6.12.3)				
			JP PARK Main Gate Opp Road street lights	Each	2		
			J P Park Sand pathway Lighting	Each	4		
			J.P Park Play ground Street Lights	Each	1		
			Total qty	**Each**	**7**	**4774.00**	**33418.00**
14	47	6.16.6	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' Type curve, indicator ON/OFF, energy cross-3 with Short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898. (Item No. - 6.16) 40-63Amps TPN (Item No. - 6.16.6)				
			JP PARK Main Gate Opp Road street lights	Each	2		
			J P Park Sand pathway Lighting	Each	4		
			Total qty	**Each**	**6**	**1936.00**	**11616.00**
15	46	6.13	Supplying and fixing Moulded Case Circuit Breaker (MCCB) over the existing wood/panel board using necessary screws, bolts, nuts and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics) THREE POLE 6.13.1)100Amps 25kA.				
			J P Park Sand pathway Lighting	Each	2		
			J.P Park Play ground Street Lights	Each	4		
	46	6.13.B.9	**Total qty**	**Each**	**6**	**4044.00**	**24264.00**
			250Amps 35kA.				
			J.P Park Play ground Street Lights	**Each**	**2**	**16327.00**	**32654.00**
16	49	6.39.1	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc., and painted with 2 coats of red oxide and then two coats of approved paint. (Item No. - 6.39)-40x40x6mm (Item No. - 6.39.1)				
			JP PARK Main Gate Opp Road street lights	Mtr	30		
			J P Park Sand pathway Lighting	Mtr	80		
			J.P Park Play ground Street Lights	Mtr	40		
			Total qty	**Mtr**	**150**	**263.00**	**39450.00**
17	~~39~~ 49	6.40.1	Fabricating supplying and mounting MS box made out ... SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 2 coats of red oxide primer paint and finally finished with approved colour enameled metal paint etc., complete. (Item No. - 6.4)--14SWG (Item No. - 6.40.1)				
			JP PARK Main Gate Opp Road street lights	sq.cms	80000		
			J P Park Sand pathway Lighting	sq.cms	230000		
			J.P Park Play ground Street Lights	sq.cms	40000		
			Total qty	**sq.cms**	**350000**	**0.37**	**129500.00**

Sl No	SR ref page	sl no	Description of Work	unit	Qty	Rate	Amount
18	55	7.1	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit ... The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 122 mm dia (Item No. - 7.1)				
			JP PARK Main Gate Opp Road street lights	No	2		
			J P Park Sand pathway Lighting	No	4		
			J.P Park Play ground Street Lights	No	2		
			Total qty	**No**	**8**	**2727.00**	**21816.00**
19	62	7.12.1	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than 3.25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV. (Item No. - 7.12)-40mm (Item No. - 7.12.1)				
			JP PARK Main Gate Opp Road street lights	Mtr	30		
			J P Park Sand pathway Lighting	Mtr	60		
			J.P Park Play ground Street Lights	Mtr	40		
			Total qty	**Mtr**	**130**	**345.00**	**44850.00**
20	62	7.13.4	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc. 35Sqmm (Item No. - 7.13.4)				
			JP PARK Main Gate Opp Road street lights	Each	2		
			J P Park Sand pathway Lighting	Each	4		
			J.P Park Play ground Street Lights	Each	2		
			Total qty	**Each**	**8**	**362.00**	**2896.00**
21	62	7.14.3	Supplying and fixing of heavy duty cable glands suitable for UG cable of 1.1 KV class (metal only) (Item No. - 7.14)32mm dia (Item No. - 7.14.3				
			JP PARK Main Gate Opp Road street lights	Each	4		
			J P Park Sand pathway Lighting	Each	8		
			J.P Park Play ground Street Lights	Each	4		
			Total qty	**Each**	**16**	**122.00**	**1952.00**
22	64	7.21.6	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes. (Item No. - 7.21) 16 sqmm (Item No. - 7.21.6)				
			JP PARK Main Gate Opp Road street lights	Each	240		
			J P Park Sand pathway Lighting	Each	1000		
			Total qty	**Each**	**1240**	**11.31**	**14024.40**
	64	7.21.7	25 sqmm Long Barrel (Item No. - 7.21.8)				
			JP PARK Main Gate Opp Road street lights	Each	12		
			J P Park Sand pathway Lighting	Each	18		
			J.P Park Play ground Street Lights	Each	208		
			Total qty	**Each**	**238**	**20.59**	**4900.42**
23	64	7.22.3	Supplying and running GI/Copper conductor for grounding and (along with other wires in conduit system of wiring) using necessary suitable size clamps, nails, guttas/spacers etc. GI Wire (Item No. - 7.22.A)-8 SWG (Item No. - 7.22..3)				
			JP PARK Main Gate Opp Road street lights	Mtr	20		
			J P Park Sand pathway Lighting	Mtr	50		
			J.P Park Play ground Street Lights	Mtr	20		
			Total qty	**Mtr**	**90**	**19.50**	**1755.00**

Sl No	SR ref page	sl no	Description of Work	unit	Qty	Rate	Amount
24	5	2.4	KSRB 2-2.2 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5 (Item No. - 2.4, Page No. 5) (Basic Rate=283.00 + Adhoc @ 11%+Area Weightage @ 6%)				
			J P Park Sand pathway Lighting	Cum	1.00		
			J.P Park Play ground Street Lights	Cum	6.48		
			Total qty	**Cum**	**7.48**	**332.98**	**2490.69**
25	14	4.5	KSRB 4-1.5 : Providing and laying in position plain cement concrete of mix M20 with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @ 0.43cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 (Item No. - 4.5, Page No. 12) (Basic Rate=5542.00 + Adhoc @ 11%+Area Weightage @ 6%)				
			J P Park Sand pathway Lighting	Cum	1.00		
			J.P Park Play ground Street Lights	Cum	6.48		
			Total qty	**Cum**	**7.48**	~~**6911.96**~~	~~**51701.46**~~
26	108	17.4.2	Supplying and fixing telescopic M.S. bracket fabricated by using 0.5m length 4" dia telescopic M. S. pipe, with 2" dia 1.5m long M. S. bracket and are welded with suitable angle, using 6mm thick M. S. sheet, grip bolts & nuts, as required, suitable for 9 to 12 mtrs. M. S. tubular pole, with necessary two coats of painting, with all other accessories. Single bracket 2 Mtr. Length			6520.72	48776.99
			JP PARK Main Gate Opp Road street lights	**Each**	**60**	**1677.00**	**100620.00**
27	LQ		Fabricating, supplying and Errection of swaged/Stepped M.S tubular pole of height 4 Mtr having three sections and providing two coats of PU Primer and finished with two coats of PU paint of approved quality and colour. The pole shall be Foundation Mountable having the MS Base plate of size 200x250x8mm, which will be welded at the bottom of the pole (as per IS). Termination compartment within the pole at Suitable Height with door opening arrangements, including suitable boards, Bakelite sheet and MCBs. The pole shall be fitted with decorative arm/bracket at suitable height. The pole will be fitted with aluminium spinn at the steppings which will be painted gold colour.The Arm/Bracket will be fitted with Decorative aluminium casting flowers of 2 Nos at suitable places. a) 4 Mtr Pole. (Top- 1.5 mtr Height, 76.1 mm outer dia, 2.9 mm thick, Bottom-1mtr Height, 114 mm outer dia, 3.2 mm Thickness, Middle-1.5mtr Height, 89 mm outer dia, 2.9 mm thick, complete) The decorative arm/Bracket shall be MS pipe of 42 mm outer dia, 2.6 mm thick the length of arm will be approx. 3mtr, including bending as per the approved design. Foundation bolts/nuts of size M12X500 complete including loading, unloading and Transportation to Work Site. (excluding Suitable foundation)				
			J P Park Sand pathway Lighting	**Each**	**250**	**16225.00**	**4056250.00**
28	LQ		Supply, installation, testing and commissioning of booster amplifier with power handling of 750 watt RMS 4ohms Dual and 100/70 volt output on bridge mode single channel Rack mountable Specs: frequency response : 20 htz to 20khtz Make: Ahuja/Equivalent.				
			J P Park Sand pathway Lighting	**Each**	**4**	**76700.00**	**306800.00**
29	LQ		Supplying and fixing of 6 Watts outdoor waterproof speaker with IP66 protection, made up of plastic cone. Make: Ahuja/Equivalent.				
			J P Park Sand pathway Lighting	**Each**	**250**	**1888.00**	**472000.00**

Sl No	SR ref page	sl no	Description of Work	unit	Qty	Rate	Amount
33	102	15.11	Speaker Cables Supply, installation, testing and commissioning professional grade 2.5 sq mm TIN coated low loss 2 core multi strand Oxidation Free speaker cable including, lead and lifts, loading and unloading, cost of conveyance for all the materials with the accessories.				
			J P Park Sand pathway Lighting	meter	4500	38.00	171000.00
32	101	15.01	Supply, installation, testing and commissioning of 4 to 6 Channel 4 mic/line input mixer with 2/3 band semi parametric eq 2 bus and 2 aux Balanced return.				
			J P Park Sand pathway Lighting	No	2	12800.00	25600.00
33			LED Street light.Supply of LED Streetlight with pressure die cast aluminum housing body with optimal heat sink for better thermal dissipation. Diffuser with Injection moulded & is made of polycarbonate material with high transmission index, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminare > IK08. Power Factor >0.9 with mains Current should not be greater than 0.1A to 0.7A & Surge Protection- Min 4KV along with Over voltage/Overload, short circuit/ miswiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Over load & Short circuit protection ensures reliable operation in spite of problem in output side. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with .....W System Power consumption. LED Efficiency>130lm/w at 1W & Fixture Efficiency >80lm/w with nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 5 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED source manufacture. Suitable for B1/B2 Roads as per IS 1944 Part I & Part II.				
	27	4.35.1	LED Streetlight 24watts				
			J P Park Sand pathway Lighting	**Each**	**250**	**6912.00**	**1728000.00**
34	31	4.38.35.4	Accessories- Open Type Heavy Duty Ferromagnetic Copper Ballast for HPSV/HPMH lamps: Supply of High Intensity Discharge Electro Magnetic Ballast suitable for ...W sodium vapor / Metal Halide lamp with Copper winding of Orthocyclic winding coil. Class H insulated dual coated copper wire. Compliance to IEC 61347-2-9 Safety & IEC 60923 Performance. Winding Temperature for HID Ballast tw = 130 deg C & temperature rise ?T = 70 deg C. For 400 - Watts				
			J.P Park Play ground Street Lights	**Each**	**40**	**3524.00**	**140960.00**
35	31	4.38.45	Accessories- Ignitor Suitable for 70 to 400 Watts SV/MH fittings				
			J.P Park Play ground Street Lights	**Each**	**40**	**222.00**	**8880.00**
36	30	4.38.28	Supply of 400W Metal Halide single end tubular Lamp with lumen output of 25000 lumens & CCT 3000 & CRI 80+ & Avg life greater than 20,000 Hrs. with Cap Base E40				
			J.P Park Play ground Street Lights	**Each**	**50**	**1078.00**	**53900.00**

SR ref		Description of Work	unit	Qty	Rate	Amount
page	sl no					
23	4.18.5	Supplying High pressure ..... Metal halide flood light luminary suitable for use with high pressure metal halide lamp with integrated control gear. The fitting shall be non corrosive high pressure die cast aluminum housing powder coated with toughened and heat resistant glass with low copper content black/grey powder coated paint finish with EPDM gasket. Reflector shall be made of high purity pre-anodized aluminum. Cable entry through a cable gland with toggle clips. IP 65 protection for both and optical and electrical compartment. Bottom cover may be with polycarbonate / tempered / toughened glass. Luminaire efficiency should be > 60% and ambient temperature > 35 deg C. High intensity discharge Electro magnetic ballast with copper winding of Octocyclic winding coil. Class H insulated dual coated copper wire. Compliance to IEC 61347-2-9 Safety and IEC 60923-performance. Winding temperature for HID ballast tw = 130 deg C and temperature rise ?T - 70 deg C. Luminaire shall be suitable to operate on 230/250Volts 50Hz AC supply finish including wiring, ignitor, condenser. SS Toggles for opening front hingeable glass, prewired to terminal block.2x400Watts				
		J.P Park Play ground Street Lights	Each	16	22800.00	364800.00
		Sub Total				17603255.50
		KRIDL Charges @ 11%				1936358.10
		Preparatin of Detailed Project report at 1%				200000.00
		PMC Charges @ 1%				200000.00
		BESCOM Deposit and Miscellenoius		L/S		60386.40
		Total				20000000.00
		Rs Two Crores Only				

rtificate

1) Certified that,the work spot has been inspected by me & prepared the estimate in most economical way of executing the work.

2.) The Provisions made in the estimate are adequate and are necessary.

3.) The Work comes in the BBMP limit and is legitimate charges on the Corporation Funds.

4.) The rates in the Estimate is based on the KPWD (Elect) SR 2014-15. And Approved Lowest Quotation Rates.

Junior Engineer(Electrical)
RR Nagar Zone
BBMP

Assistant Executive Engineer (Elect)
RR Nagar Zone
BBMP

Executive Engineer(Elect)
RR Nagar Zone
BBMP

Administrative Sanctioned for Rs. 200.00.000/-
Rs. Two Crores Only
.....Is accorded
under the head. P3106 Nagarothana Works.
By EE (Elect) RRN/. Page No-22&23
Registered as EE (Elect)RRN/No. 69/17-18 Subject to conditions contained in enclosed memo No. 69/17-18. Date. 28/02/18

TECHNICAL SANCTION
Rs: 2,00,00,000/ (Rs Two hundred lakhs only) is accorded
under the head: P-3106
MMNY-grants -17-16
By CE(R.R.N.) 507/17-18
Registered as CE (R.R.N) No: 124-125 subject to conditions contained in enclosed memo
No: 507/17-18 Date: 1/3/18